

## REMARKS

This is a full and timely response to the final Office action mailed May 28, 2008. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

### Present Status of Patent Application

Upon entry of the amendments in this response, claims 26-31 and 41-46 are pending in the present application. More specifically, claims 26-31 and 41-46 are previously presented claims while claims 32-40 have been withdrawn in response to an election/restriction in the current Office action. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

#### A. Election/Restrictions

##### Office action Statement of the Restriction

*Newly submitted claims 32-40 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: They are directed to fig. 2 which was not originally presented.*

*Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 32-40 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.*

##### Applicants' response to Restriction

Applicants assume that the restriction has been imposed by the Office under the presumption that a potentially serious burden is being placed upon Examiner for carrying out an examination of Applicants' claims 32-40. If this is indeed the reason for the restriction, Applicants respectfully draw attention to the MPEP, which provides the following guideline for making an assessment of the imposed burden:

For purposes of the initial requirement, a serious burden on the examiner may be *prima facie* shown if the examiner shows by appropriate explanation of separate classification, or separate status in the art, or a different field of search as defined in MPEP § 808.02.  
(Emphasis added)

In its discussion of the propriety of restrictions, MPEP § 803 further states that if search and

examination of two or more inventions can be made without “serious burden,” the examiner must examine them on the merits even if the claims are directed to distinct or independent inventions.

In the present case, method claims 32-40, although not necessarily obvious in view of apparatus claims 26-31 and 41-46, are very similar in subject matter. More specifically, each set of claims contain claim elements directed to a peripheral device containing various elements such as a memory, firmware code segments, flag etc. While the arrangement and use of these two elements are recited in alternative ways in the two sets of claims (method and apparatus), Applicants respectfully submit that a prior art search for these various elements would simultaneously uncover material pertaining to both sets of claims. Indeed, it would appear that a search may be conducted in the same class for both groups. Consequently, Applicants respectfully submit that such a search does not constitute a “serious burden” on Examiner. On the other hand, the restriction imposes upon Applicants, an unfair burden in terms of time delay as well as additional costs. Such additional costs include filing fees for filing a continuation application, and various prosecution fees associated with carrying out the filing. Therefore, Applicants respectfully request withdrawal of the imposed restriction followed by examination and allowance of all pending claims. Reasons for allowance of currently pending claims are provided below.

**B. Claim Rejections under 35 U.S.C. §102**

**Statement of the Rejection**

*Claims 26-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Parry et al. (US 7,043,166).*

**Response to the Rejection**

Applicants respectfully traverse the rejection of claims 26-31 under 35 U.S.C. 102(e).

As is known, a proper rejection under 35 U.S.C. §102 requires that a single prior art reference disclose every element of the claim with no question of obviousness being present. Furthermore, attention is drawn to MPEP 2131, which states: “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference,” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

MPEP 2131 additionally states: “[t]he identical invention must be shown in as complete detail as is contained in the ... claim” *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913 (Fed. Cir. 1989) (Emphasis added) and also, that, in order for a reference to be anticipatory, under 35 U.S.C

102 with respect to a claim: “[t]he elements must be arranged as required in the claim.” *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

Applicants respectfully submit that the Office action does not satisfy the above-mentioned requirements in carrying out the rejection of claims 26-31. Further specifics in connection with some individual claims are provided below.

### **Claim 26**

The Office action asserts that Applicants’ memory device is anticipated by Parry’s “*Memory Module 110, fig. 1.*” As cited in the claim (with emphasis added), Applicants’ memory device has “*a memory capacity selected to store a subset of a plurality of firmware code segments, wherein each of the plurality of firmware code segments is executable to implement a corresponding function in a plurality of functions of the multifunctional peripheral device, and further wherein the memory capacity is selected to preclude storing the plurality of firmware code segments in their entirety.*”

The rationale behind having a memory device of limited capacity is described in various parts of Applicants’ original disclosure. For example, paragraph [003] discloses: “*A more complex controller and increased memory requirements all increase the cost of the printer*” while paragraph [004] teaches: “*There is a need for a reducing the cost of a printer or other peripheral device while also providing for flexible functionality of the device.*” Consequently, Applicants’ claim 26 is directed at including a memory device having a limited capacity that permits storing of some firmware segments but not all firmware segments.

The Office action alleges that such a limited capacity memory device is anticipated by Parry’s memory module 110 in part because Parry’s “*firmware interface (104) can be uploaded to the memory of a printing device to allow the printing device to access and execute the firmware code (103) while the firmware code (103) remains stored on the memory module (110) and is not uploaded to the memory of the host printing device; see col. 3, lines 57-62.*”

However, the Office action allegation cited above leads to one of two fallacies in the rejection. This first fallacy pertains to an inconsistency in identifying anticipatory elements in the cited art.

To explain further:

Applicants acknowledge that Parry does indeed disclose the feature whereby firmware code 103 contained in memory module 110 is not uploaded into the memory of a printing device, and that this firmware may be executed via the memory module 110 itself.

However, (judging by the Office action allegation cited above), it would appear that the Office action is insisting that Parry’s “*memory of the host printing device*” anticipates Applicants’ memory

device (because Parry's "*memory of the host printing device*" does not store a portion of Parry's firmware code, which is stored in memory module 110 instead). Such an allegation conflicts with a different allegation (page 3, line 3 of the Office action) that it is Parry's memory module 110 (rather than the "*memory of the host printing device*") that anticipates Applicants' memory device.

The second fallacy pertains to a lack of clarity in identifying an anticipatory memory device having a limited capacity as cited in Applicants' claim 26.

To explain further:

Assuming *arguendo* that Parry's memory module 110 is indeed the anticipatory memory device, the Office action fails to explain how this module has a limited capacity that specifically precludes storing all of the firmware code segments. Nothing in Parry's suggests such a limited capacity. Consequently, it would appear that the Office action is drawing a conclusion that is not supported in the cited art. Such an action violates the requirements for a rejection under 35 U.S.C. 102 (i.e. a proper rejection under 35 U.S.C. §102 requires that a single prior art reference disclose every element of the claim with no question of obviousness being present).

On the other hand, if it is assumed *arguendo* that Parry's "memory of a printing device" is the anticipatory element, the Office action fails to disclose where in Parry can be found a suggestion or teaching of a printing device containing a memory having a limited capacity specifically selected to preclude storing all of the firmware code segments in their entirety.

In summary, for at least the inadequacies cited above, Applicants respectfully submit that the rejection of claim 26 under 35 U.S.C. 102 is improper and hereby request withdrawal of the rejection. Applicants further submit that claim 26 is allowable over the cited prior art of Parry and hereby request allowance of the claim.

### **Claims 27-31**

Applicants respectfully submit that claims 27-31 are allowable for several reasons. One among these several reasons arises from the fact that these claims are directly or indirectly dependent on claim 26. Because claim 26 is allowable, claims 27-31 that depend directly or indirectly on claim 26 are also allowable as a matter of law. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Therefore, Applicants respectfully request allowance of claims 27-31. Some additional remarks are provided below.

### **Claim 29**

Applicants respectfully traverse the rejection of claim 29 because the rationale provided for the rejection is improper. Specifically, in page 4 of the Office action it is alleged: "*wherein the*

*memory device (Memory Module 110, fig. 1) is configured to store a first flag (i.e., if the firmware components are not compatible with the hardware/software of the host printing device (determination 204); col. 6, lines 19-21, fig. 4) which when set is indicative of a presence of the selected firmware code segment in the memory device (i.e., a check for an existing firmware components may be performed (step 206); col. 6, lines 31-32, fig. 4)” (emphasis added).*

Applicants respectfully submit that the Office action is improperly asserting that Parry’s *determination 204* (wherein a check for compatibility is carried out) is the same as Applicants’ use of a flag for indicating presence/absence of code. Parry does not disclose a flag, nor even reasonably teach or suggest the use of a flag.

The Office action further improperly insists that “a check for an existing firmware component” is equivalent to checking to see if a flag is set. Parry does not disclose the use of a flag to carry out this sort of check.

To the contrary, it can be reasonably argued that Parry discloses (in his col. 6, lines 40-42) that the check for compatibility may be carried out by reading a version number of the stored code. Furthermore, it may be pertinent in this matter, to draw attention to Parry’s col. 3, line 62 to col. 4, line 2, which states: “*The firmware interface (104) may also provide the host printing device with details about the different objects of firmware code (103) available on the module (110), such as size, location, version number, purpose, etc. of each object of firmware code. This information can be used by the host printing device to determine whether or not to upload the objects of firmware code (103) from the memory module (110).*” One of ordinary skill in the art will recognize that this type of functionality does not reasonably teach or suggest (without “obviousness” being applied) the use of a flag as cited in Applicants’ claim 29.

Consequently, Applicants respectfully assert that the Office action is drawing conclusions that are not supported by the cited art. Such an action violates the requirements for a proper rejection under 35 U.S.C. 102.

### **C. Claim Rejections under 35 U.S.C. §103**

#### **Statement of the Rejection**

*Claim 41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parry et al. (US 7,043,166) in view of Sugita (US 2004/0068548).*

## Response to the Rejection

### Claim 41

Applicants respectfully traverse the rejection of claim 41 under 35 U.S.C. 103(a) as being improper because it fails to satisfy several requirements and guidelines for carrying out such a rejection.

Specifically, reference is drawn to MPEP § 2141. III Rationales To Support Rejections Under 35 U.S.C. 103, which states in part (with emphasis added):

“Office personnel must explain why the differences(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art. ... The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that “[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at \_\_\_, 82 USPQ2d at 1396.”

The Office action alleges that Parry teaches a volatile memory having “a memory capacity selected to store a subset of a plurality of firmware code segments.” Applicants respectfully traverse this allegation and draw attention to remarks made above in response to the rejection of claim 26. The Office action then admits that the prior art of Parry fails to explicitly show a host processor as recited in Applicants’ claim 41, but goes on to assert that this aspect is “*well known in the art as evidenced by Sugita ‘548.*”

Applicants acknowledge that Sugita does indeed disclose a host computer 300 as asserted in the Office action. However, as is known, it would be improper to jump to the conclusion that the mere existence of a prior art element would justify combining this prior art element with a different prior art system unless a clear cut need exists to do so. Such a need or advantage should be apparent to one of ordinary skill in the art. Towards this end, the Office action provides the following rationale for combining Sugita with Parry:

*In view of the above, having the system of Parry and then given the well-established teaching of Sugita, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Parry as taught by Sugita to include: A host processor comprising a memory in which is stored each of the plurality of firmware code segments, the host processor communicatively coupled to the*

*multifunctional peripheral device for transferring the subset of firmware code segments to the peripheral device on an as-needed basis, since Sugita stated on page 1, paragraph [0002] that such a modification would ensure an information processing system in which a host apparatus is connected for mutual communications with an image forming apparatus which comprises a rewritable memory which stores firmware.*

Applicants respectfully submit that the reasoning provided above is illogical and constitutes a conclusory statement that has no rational underpinning to justify a rejection under obviousness.

To explain further, attention is drawn to the prior art of Parry, specifically to the Abstract section, which describes his invention as follows: “*a method for providing firmware for a printing device includes attaching a memory module storing the firmware to a printing device consumable. The memory module contains the firmware being provided for the printing device and a firmware interface object that can be used to interface the printing device with the new firmware.*”

This process is described in further detail in other sections of Parry’s disclosure. For example, col. 4, lines 3-17 disclose:

*As shown in FIG. 2, the memory module (110) is attached to a printing device consumable (120) that will be provided to, or placed in, a printer or printing device. As indicated above, a "consumable" is any material, including toner or print media, consumed by a printing device to produce hardcopy documents. In addition to toner and print media, a "consumable" may be any part or portion of a printer or printing device that is periodically replaced to allow the printer or printing device to continue producing printed hardcopy documents. The memory module (110) may, for example, be attached to the disposable cartridge or container that holds the toner in the printer. The memory module (110) may also be attached to the stack or supply of print media or to some other consumable part of the printer, such as a replaceable imaging drum.*

As pointed out above, Parry’s memory module is incorporated into a “consumable” that may be periodically replaced by a user of a printing device. Parry has outlined the advantages that are provided by his technique in contrast to existing art. For example, in his col. 2, lines 26-34, Parry asserts that in existing methods “*the process is often complicated for many printing device users and may require a technician, printing device administrator, or other specially trained person...*” Consequently, Parry teaches incorporation of a memory module into a consumable. This memory module can be a customized memory module (as described in his col. 8, using Fig. 6) that contains a selected number and type of firmware components.

In light of Parry's teachings described above, Applicants respectfully submit that it is illogical to jump to the conclusion that it would be obvious to incorporate Sugita's "*host processor comprising a memory in which is stored each of the plurality of firmware code segments*" (cited from page 7 of the Office action) into Parry. One of ordinary skill in the art will recognize that such a modification would constitute an added complexity (processor, operating code, large memory capacity for storing all the firmware etc. etc) that runs counter to the teachings of Parry. Therefore, Applicants respectfully submit that the Office action rationale for rejecting Applicants' claim 41 is based on a conclusory statement that has no rational underpinning to justify a rejection under obviousness.

Attention is now drawn to Applicants' remarks presented above in response to the rejection of claim 26. These remarks are directed at pointing out that Parry does not reasonably teach or disclose that his memory module 110 has a limited capacity that precludes storing all the firmware segments. Given this fact, the Office action fails to explain why one of ordinary skill in the art would store each of the plurality of firmware code segments in a host processor that is communicatively coupled to the multifunctional peripheral device, rather than storing all these code segments in the multifunctional peripheral device itself (in Parry's memory module 110).

To summarize:

- 1) The Office action fails to explain how Parry discloses a volatile memory having a limited memory capacity (as cited in Applicants' claim 41).
- 2) The Office action fails to justify why one of ordinary skill in the art would modify Parry by adding complexity (and presumably cost) in terms of incorporating a processor and a memory device containing all firmware code segments into Parry's "consumable" which is typically used for uploading firmware "patches" (upgrades, fixes etc.) into a peripheral device.
- 3) The Office action fails to explain why one of ordinary skill in the art would store each of the plurality of firmware code segments in a host processor that is communicatively coupled to the multifunctional peripheral device, rather than storing all these code segments in the multifunctional peripheral device itself when the multifunctional peripheral device is capable of doing so.

For at least the reasons described above, Applicants respectfully submit that the rejection of claim 41 is improper and hereby request withdrawal of the rejection. Applicants further submit that



claim 41 is allowable over the cited prior art for at least reason 1) listed above, and hereby request allowance of the claim.

### **Claims 42-46**

Applicants respectfully submit that claims 42-26 are allowable for several reasons. One among these several reasons arises from the fact that these claims are directly or indirectly dependent on claim 41. Because claim 41 is allowable, claims 42-26 that depend directly or indirectly on claim 41 are also allowable as a matter of law. Therefore, Applicants respectfully request allowance of claims 42-26. Some additional remarks are provided below.

### **Claim 42**

Applicants respectfully traverse the rejection of claim 42 because the rationale provided for the rejection is improper. Specifically, in page 8 of the Office action it is alleged: “*Parry ‘166 discloses the computer network (Network 621, fig. 6), wherein the memory capacity of the volatile memory precludes storing of the plurality of firmware code segments in their entirety.*”

Applicants respectfully submit that the Office action is improperly drawing a conclusion that Parry’s memory **precludes** storing of the plurality of firmware code segments in their entirety. Nothing in Parry supports or suggests drawing such a conclusion. Applicants acknowledge that Parry does indeed disclose (as asserted in the Office action): “*...allow the printing device to access and execute the firmware code (103) while the firmware code (103) remains stored on the memory module (110) and is not uploaded to the memory of the host printing device; see col. 3, lines 57-62.*” However, one of ordinary skill in the art would not typically interpret this operation of Parry’s as necessitated by a memory capacity limitation.

In fact, in direct contradiction to the Office action allegation, Parry discloses in his col. 3, lines 66 to col. 4 line 2 (which directly follows the portion cited in the Office action): “*This information can be used by the host printing device to determine whether or not to upload the objects of firmware code (101) from the memory module (110).*” One of ordinary skill in the art would typically interpret this statement as teaching that the host printing device has the ability to upload all of the firmware code (101) from the memory module but in certain cases decides to not carry out an upload but execute the firmware from the memory module itself. There are a variety of reasons for executing the code in this manner and it is unreasonable to jump to the conclusion that this action indicates that the memory capacity in the printing device has a limited capacity that has been specifically selected for **precluding** *storing of the plurality of firmware code segments in their*

*entirety.*

Claim 44

Applicants respectfully draw attention to remarks (vis-à-vis a flag) provided above in response to the rejection of claim 29.

**Prior Art Made of Record**

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

### CONCLUSION

In light of the reasons set forth above, Applicants respectfully submit that pending claims 26-31 and 41-46 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims (including withdrawn claims) are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned representative at (404) 610-5689.

Respectfully submitted,

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I hereby certify that this paper is being electronically transmitted to the Commissioner for Patents on the date shown below:

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